

## **Tool-Holding Apparatus**

### **Field of Invention**

The present invention relates to a tool-holding apparatus.

### **Background of Invention**

Referring to Figure 5, a conventional tool-holding apparatus 60 includes a board 62 and two rows of holders 64 formed on the board 62. Referring to Figure 6, each holder 64 is formed on a plain area 63 of the board 62. A concave area 65 is located next to each plain area 63. Each holder 64 includes a first section 66 extending from each plain area 63, a second section 68 extending from the first section 66, a third section 70 extending from the second section 68 and a stop 72 extending from the first section 66 opposite to the second section 68. A gap 74 exists between the third section 70 of each holder 64 and each plain area 63 of the board 62. A gap 76 exists between the first section 66 of each holder 64 and the third section 70 of the next holder 64. A spanner 100 is put in the gap 76 so that the spanner 100 presses the third section 70 towards the plain area 63. Hence, the spanner 100 is restrained by means of the stop 72 and the third section 70. However, the gap 76 is too narrow to encompass various sizes of spanners. Moreover, the gap 74 is too narrow to allow adequate pivotal of the third section 70 caused by means of insertion of the spanner 100. That is, the third section 70 is squeezed between the plain area 63 and the spanner 100. Thus, the third section 70 is deformed and might therefore be damaged. When subject to vibration, the spanner 100 can easily slide on and past the stop 72 and fall

1 from the tool-holding apparatus 60.

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3 The present invention is therefore intended to obviate or at least alleviate  
4 the problems encountered in prior art.

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6 **Summary of Invention**

7 The primary objective of the present invention is to provide a  
8 tool-holding apparatus to which a spanner can be securely held and from  
9 which the spanner can easily be taken.

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11 According to the present invention, a tool-holding apparatus is provided  
12 for holding at least one tool. The tool-holding apparatus includes a  
13 board and at least one holder formed on the board. The holder includes  
14 a root extending from the board, a tip extending from the root for pressing  
15 the tool, a restraint formed thereon near the tip for restraining the tool and  
16 a concave portion defined therein near the root for receiving the tool.

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18 Other objects, advantages, and novel features of the invention will  
19 become more apparent from the following detailed description when  
20 taken in conjunction with the attached drawings.

21

22 **Brief Description of Drawings**

23 The present invention will be described through detailed illustration of  
24 the preferred embodiment referring to the attached drawings.

25

1 Figure 1 is a perspective view of a spanner held by means of a  
2 tool-holding apparatus according to the preferred embodiment of the  
3 present invention.

4  
5 Figure 2 is a perspective view of the tool-holding apparatus of Figure 1.

6  
7 Figure 3 is a partial side view of the tool-holding apparatus of Figure 1  
8 holding two spanners.

9  
10 Figure 4 is similar to Figure 3 but shows the spanner in another position.

11  
12 Figure 5 is a perspective view of a conventional tool-holding apparatus.

13  
14 Figure 6 is a partial side view of the tool-holding apparatus of Figure 5.

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16 **Detailed Description of Preferred Embodiment**

17 Referring to Figures 1 and 2, according to the preferred embodiment of  
18 the present invention, a tool-holding apparatus 10 includes a board 11, a  
19 ridge 13 formed on the board 11 and two rows of holders 30 formed on  
20 the board 11. An ear 14 extends from the ridge 13. The ear 14 is used  
21 for hanging the tool-holding apparatus 10 on the wall.

22  
23 Referring to figure 3, each holder 30 is shaped like a curve. In specific,  
24 each holder 30 includes a first section 32 extending perpendicularly from  
25 the board 11, a second section 34 extending substantially perpendicularly  
26 from the first section 32, a third section 36 extending obliquely from the

1 second section 34, a fourth section 38 extending obliquely from the third  
2 section 36 and a restraint 40 formed on the third section 36. An obtuse  
3 protrusion 42 extends from the restraint 40 of each holder 30. A  
4 concave area 44 is located next to the first section 32 of each holder 30.  
5 The concave area 44 includes a first facet 46 and a second facet 48.  
6 Between the fourth section 38 and the second facet 48 exists a gap 50 for  
7 receiving a spanner 20. The spanner 20 is pressed against the second  
8 facet 48 by means of the fourth section 38 and the restraint 40 and hooked  
9 by means of the obtuse protrusion 42 of the restraint 40.

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11 The first section 32 can be referred to as the "root." The fourth section  
12 38 can be referred to as the "tip." Each holder 30 can include a  
13 smoothly curved configuration that is not divided into four sections, yet it  
14 must include a flexible tip for pressing the spanner 20 and a stop for  
15 hooking the spanner 20.

16

17 Referring to Figure 4, when the tool-holding apparatus 10 is vibrated, the  
18 spanner 20 tends to slide upwardly towards the first section 32 of the next  
19 holder 30. The spanner 20 however cannot substantially slide since it is  
20 pressed against the facet 48 by means of the fourth section 38 and the  
21 restraint 40 and hooked by means of the obtuse protrusion 42 of the  
22 restraint 40.

23

24 The present invention has been described through detailed illustration of  
25 the preferred embodiment. Those skilled in the art can derive variation  
26 from the preferred embodiment without departing from the scope of the

1 present invention. Therefore, the preferred embodiment shall not limit  
2 the scope of the present invention defined in the claims.

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